

Amendments to the specification:

Please amend the paragraph starting at page 4, line 9, as follows:

When the sintering atmosphere is arranged in an oxygen partial pressure less than of 10^4 Pa or less and a water-vapor partial pressure of more than 10^2 Pa or more, the concentration of the clathrated active oxygen species will be less than 10^{20} cm⁻³. Further, even under a dry oxidation atmosphere with an oxygen partial pressure of 10^4 Pa or more and a water-vapor partial pressure of 10^2 Pa or less, when the sintering temperature is arranged in less than 1200°C, it will be difficult to synthesize the desired $12\text{CaO} \cdot 7\text{Al}_2\text{O}_3$ compound. Conversely, when the sintering temperature exceeds 1415°C, the raw material will be undesirably molten. Thus, it will also be hard to obtain the desired $12\text{CaO} \cdot 7\text{Al}_2\text{O}_3$ compound. In case of synthesizing the $12\text{CaO} \cdot 7\text{Al}_2\text{O}_3$ compound through a solid phase reaction, the mixture of calcium carbonate and gamma-aluminum oxide is suitable for the raw material. However, any combination of calcium hydroxide or calcium oxide and aluminum hydroxide or one of various aluminum oxides (alpha, gamma or theta aluminum oxide) may be used as the raw material to synthesize the above compound.

Please amend the paragraph starting at page 6, line 9, as follows:

Fig. 5 is a graph showing an analytical curve of temperature to release-gas intensity with a molecular mass/charge ratio = 32 in each of the $12\text{CaO} \cdot 7\text{Al}_2\text{O}_3$ compounds obtained in [of] the inventive example 1 and comparative example 1.

Please amend the paragraph starting at page 8, line 11, as follows:

A powder of raw material including calcium carbonate and gamma-alumina mixed with each other in a molecular equivalent ratio of 12 : 7 was sintered at 1300°C under an atmosphere with an oxygen partial pressure of 1 Atm (10^{-1} MPa) for two hours (sample 1). Through an X-ray diffraction analysis, the obtained sample 1 was verified as a $12\text{CaO} \cdot 7\text{Al}_2\text{O}_3$ compound. An ESR spectrum of the obtained compound was measured at each of room temperature and 77K.

Please amend the paragraph starting at page 9, line 6, as follows:

A powder of raw material including calcium carbonate and gamma-alumina mixed with each other in a molecular equivalent ratio of 12 : 7 was sintered at 1300°C in air (oxygen partial pressure of 2×10^4 Pa, water-vapor partial pressure of more than 10^2 Pa) for two hours (sample 2 or comparative example 1). Through an X-ray diffraction analysis, the obtained sample 2 was verified as a $12\text{CaO} \cdot 7\text{Al}_2\text{O}_3$ compound. Fig. 3 shows an ESR spectrum at 77K. In the comparative example 1 (sample 2), an absorption band is divided into three components, which are determined as $g_x = 2.009$, $g_y = 2.002$ and $g_z = 2.073$, respectively. This absorption band is caused by O_2^- ion radicals, and the concentration of the O_2^- ion radicals is quantitatively determined as $1 \times 10^{19} \text{ cm}^{-3}$.

Please amend the paragraph starting page 9, line 22, as follows:

A powder of raw material including calcium carbonate and gamma-alumina mixed with each other in a molecular equivalent ratio of 12 : 7 was sintered at 1300°C in room air for two hours (sample 1), and then additionally annealed at 1300°C under an atmosphere with an oxygen partial pressure of 1 Atm (10^{-1} MPa) for two hours (sample 3). Through an X-ray diffraction analysis, the obtained sample 3 was verified as a $12\text{CaO} \cdot 7\text{Al}_2\text{O}_3$ compound. The concentration of O_2^- ion radicals included in the obtained $12\text{CaO} \cdot 7\text{Al}_2\text{O}_3$ compound was quantitatively determined from ESR and Raman-scattering spectra. The determined amount of the clathrated O_2^- ion radicals was $1 \times 10^{21} \text{ cm}^{-3}$. From the ESR spectrum, it was also proved that O^- ion radicals were clathrated by a concentration of $1 \times 10^{21} \text{ cm}^{-3}$.

Please amend the paragraph starting at page 10, line 11, as follows:

The $12\text{CaO} \cdot 7\text{Al}_2\text{O}_3$ compound obtained from the inventive example 1 was subjected to a heat treatment at 1300°C in air (oxygen partial pressure of 2×10^4 Pa, water-vapor partial pressure of more than 10^2 Pa) for two hours (sample 4). The concentration of O_2^- ion radicals included in the $12\text{CaO} \cdot 7\text{Al}_2\text{O}_3$ compound after the heat treatment was quantitatively determined from ESR and Raman-scattering spectra. The determined amount of the clathrated O_2^- ion radicals was $1 \times 10^{19} \text{ cm}^{-3}$. It is proved that the active oxygen species have been reduced by $3.8 - 0.02 = [3.75] \underline{3.78}$ for each of the unit cell

U.S. Serial No. 09/926,765
Attorney's Docket No. 011545

through the heat treatment. Most of these active oxygen species were released to the atmosphere.